CLAIMS

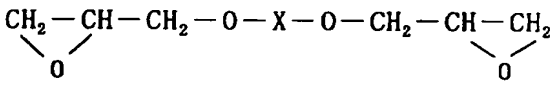
1. A neuron shielding material composition comprising a polymerization initiator, a polymerization component, a density increasing agent and a boron compound.

2. The neuron shielding material composition according to claim 1, wherein the composition does not comprise a curing agent.

3. The neutron shielding material composition according to claim 1 or 2, wherein the polymerization component comprises an epoxy component.

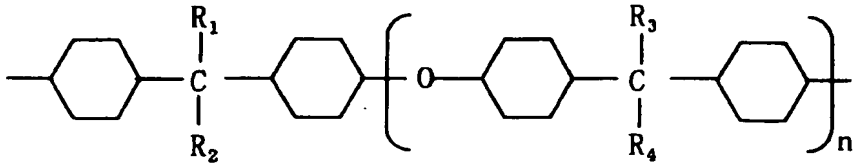
4. The neutron shielding material composition according to claim 3, wherein the epoxy component comprises a hydrogenated epoxy compound.

5. The neutron shielding material composition according to claim 3 or 4, wherein the epoxy component comprises a compound of the structural formula (1):

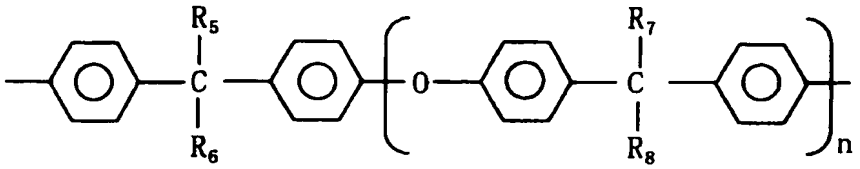


(1)

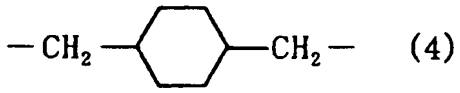
wherein X is at least one compound selected from the group consisting of compounds of the structural formulas (2), (3), (4), (5) and (6):



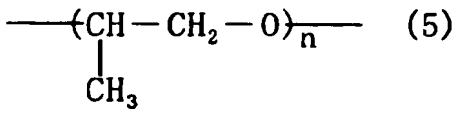
(2)



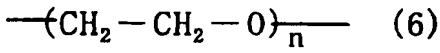
(3)



(4)



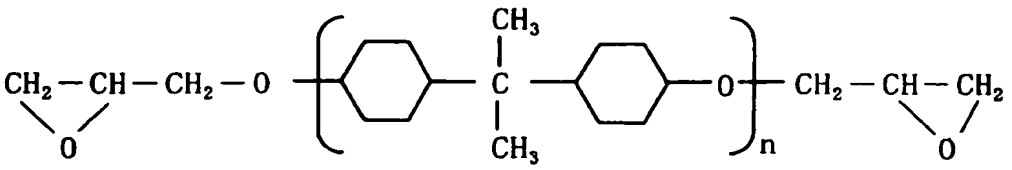
(5)



(6)

wherein R_1 to R_4 are each independently selected from the group consisting of CH_3, H, F, Cl and Br, and n is 0 to 2 in the structural formula (2), R_5 to R_8 are each independently selected from the group consisting of CH_3, H, F, Cl and Br, and n is 0 to 2 in the structural formula (3), n is 1 to 12 in the structural formula (5), and n is 1 to 24 in the structural formula (6); and a C1-20 alkyl group.

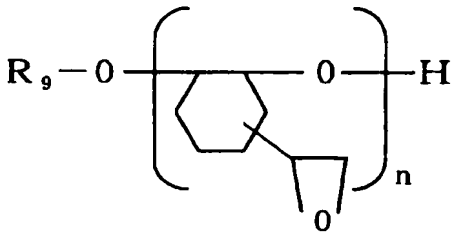
6. The neutron shielding material composition according to any of claims 3 to 5, wherein the epoxy component comprises a compound of the structural formula (14):



(14)

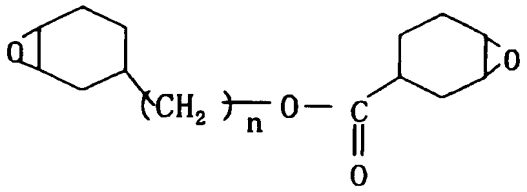
wherein n is 1 to 3.

7. The neutron shielding material composition according to any of claims 3 to 6, wherein the epoxy component comprises at least one compound selected from the group consisting of a compound of the structural formula (7):



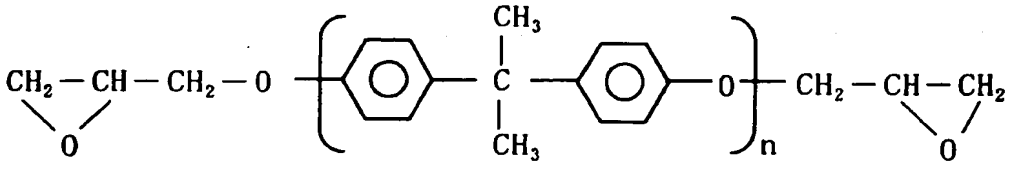
(7)

wherein R_9 is a C1-10 alkyl group or H, and n is 1 to 24; a compound of the structural formula (8):



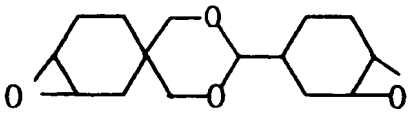
(8)

wherein n is 1 to 8; a compound of the structural formula (15):



(15)

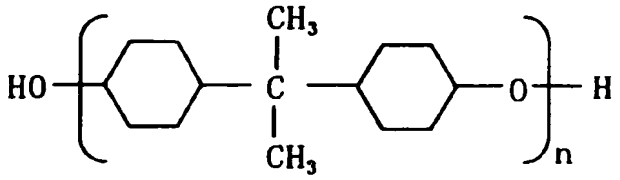
wherein n is 1 to 3; and a compound of the structural formula (17).



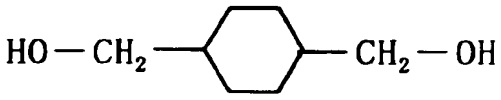
(17)

8. The neutron shielding material composition according to any of claims 1 to 7, further comprising a compound for increasing the hydrogen content in the composition.

9. The neutron shielding material composition according to any of claims 1 to 8, wherein the compound for increasing the hydrogen content in the composition comprises at least one of compounds of the structural formulas (9) and (10):



(9)

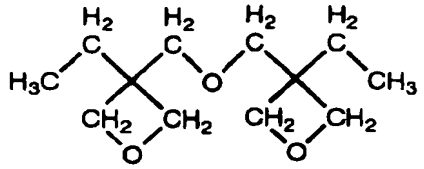


(10)

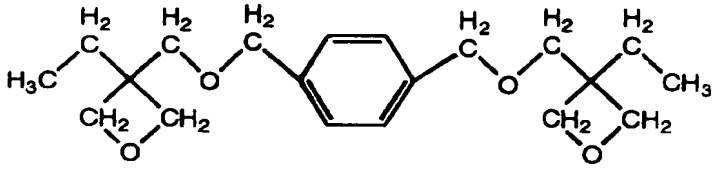
wherein n is 1 to 3.

10. The neutron shielding material composition according to any of claims 1 to 9, comprising an oxetane compound as the polymerization component.

11. The neutron shielding material composition according to claim 10, wherein the oxetane compound comprises at least one of compounds of the structural formulas (19) and (20).



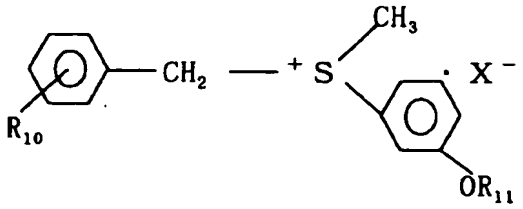
(19)



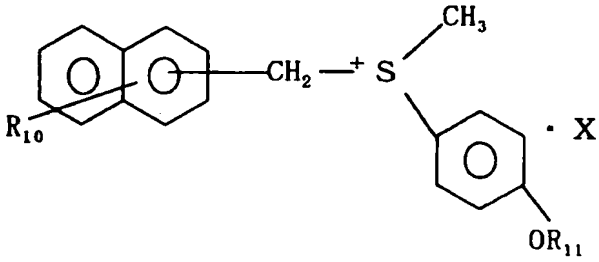
(20)

12. The neutron shielding material composition according to any of claims 1 to 11, wherein the polymerization initiator comprises a cationic polymerization initiator.

13. The neutron shielding material composition according to claim 12, wherein the cationic polymerization initiator comprises a compound of the structural formula (11) or (16):



(11)



(16)

wherein R_{10} is a hydrogen atom, a halogen atom, a nitro group or a methyl group, R_{11} is a hydrogen atom, CH_3CO or CH_3OCO, and X is SbF_6, PF_6, BF_4 or AsF_6.

14. The neutron shielding material composition according to any of claims 1 to 13, further comprising a filler.

15. The neutron shielding material composition according to any of claims 1 to 14, further comprising a refractory material.

16. The neutron shielding material composition according to claim 15, wherein the refractory material comprises at least one of magnesium hydroxide and aluminum hydroxide.

17. The neutron shielding material composition according to any of claims 1 to 16, wherein the density increasing agent is a metal powder having a density of 5.0 to 22.5 g/cm^3, a

metal oxide powder having a density of 5.0 to 22.5 g/cm^3, or a combination thereof.

18. A neutron shielding material produced from the neutron shielding material composition according to any of claims 1 to 17.

19. A neutron shielding container produced from the neutron shielding material according to claim 18.